

rated rays, did in the progress from its end p, on which the most refrangible rays fell, unto its other end t, on which the least refrangible rays fell, appear tinged with this Series of Colours, violet, indico, blue, green, yellow, orange, red, together with all their intermediate degrees in a continual succession perpetually varying: So that there appeared as many degrees of Colours, as there were sorts of rays differing in refrangibility.

## EXPER. V.

Now that these Colours could not be changed by refraction, I knew by refracting with a Prism sometimes one very little part of this Light, sometimes another very little part, as is described in the 12th Experiment of the first Book. For by this refraction the Colour of the Light was never changed in the least. If any part of the red Light was refracted, it remained totally of the same red Colour as before. No orange, no yellow, no green, or blue, no other new Colour was produced by that refraction. Neither did the Colour any ways change by repeated refractions, but continued always the same red entirely as at first. The like constancy and immutability I found also in the blue, green, and other Colours. So also if I looked through a Prism upon any body illuminated with any part of this homogeneous Light, as in the 14th Experiment of the first Book is described; I could not perceive any new Colour generated this way. All Bodies illuminated with compound Light appear through Prisms confused (as was said above) and tinged with various new Colours, but those illuminated with homogeneous Light appeared through

through Prisms neither less distinct, nor otherwise coloured, than when viewed with the naked Eyes. Their Colours were not in the least changed by the refraction of the interposed Prism. I speak here of a sensible change of Colour: For the Light which I here call homogeneous, being not absolutely homogeneous, there ought to arise some little change of Colour from its heterogeneity. But if that heterogeneity was so little as it might be made, by the said Experiments of the fourth Proposition, that change was not sensible, and therefore, in Experiments where sense is judge, ought to be accounted none at all.

## EXPER. VI.

And as these Colours were not changeable by refractions, so neither were they by reflexions. For all white, grey, red, yellow, green, blue, violet Bodies, as Paper, Ashes, red Lead, Orpiment, Indico, Bise, Gold, Silver, Copper, Grass, blue Flowers, Violets, Bubbles of Water tinged with various Colours, Peacock's Feathers, the tincture of *Lignum Nephriticum*, and such like, in red homogeneous Light appeared totally red, in blue Light totally blue, in green Light totally green, and so of other Colours. In the homogeneous Light of any Colour they all appeared totally of that same Colour, with this only difference, that some of them reflected that Light more strongly, others more faintly. I never yet found any Body which by reflecting homogeneous Light could sensibly change its Colour.

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